

THE VASCULAR PLANTS OF MOUNT KATAHDIN.

M. L. FERNALD.

(Plate 32.)

AMONG the numerous scattered accounts of Katahdin there are few detailed lists of the plants. In fact, many who have written of the mountain seem to have noticed only a few common species, while others have contented themselves with vague or unfounded generalizations. Besides those who have written on Katahdin there are, of course, a number of people who have there picked up plants of more or less interest. But so far as is now known to the writer the results of only two serious botanical trips are unrecorded. These will be discussed in the following summary which attempts to show our present knowledge of the more important botanical explorations of Mt. Katahdin.

In 1837, Prof. J. W. Bailey published in the *American Journal of Science* (xxxii. 20-34) an account of his geological studies on the mountain. Several plants were enumerated, mostly from the base or the lower slopes.

Thoreau, whose vivid account of the mountain can be appreciated only by those who like him have pulled themselves "up by the side of perpendicular falls of twenty or thirty feet . . . ascending by huge steps, as it were, a giant's stairway, down which a river flowed," noted, in 1846, many of the common species, but the unpropitious weather prevented his exploring extensively.

In August, 1847, George Thurber, the distinguished agrostologist, Aaron Young, a student from Bangor, and John Emerson of Glenburn, Maine, ascended the mountain and made extensive collections. No report of their results seems to have been published, though a large number of specimens, both from Thurber and from Young, are in the Gray Herbarium. Their route seems to have been the old one by the Wassataquoik valley, thence to Katahdin Lake and up the East Spur. Though they brought back the first representative collections of Katahdin plants they apparently got none of the rarer species, and the data on their labels are unfortunately incomplete.

"Parson" Keep, the veteran guide and independent pastor of a faithful flock, whose unique but intimate knowledge of Katahdin and the flora of northern Maine was transmitted to no successor, knew

the plants in their alpine homes. Upon his observations and guidance depended many of the results accomplished by the Scientific Survey of 1861, but apparently no more definite record exists of his botanical knowledge of the mountain.

Joseph Blake, whose Fourth of July, 1856, was celebrated by the discovery of *Saxifraga stellaris*, var. *comosa*, previously unknown south of extreme Arctic America, apparently left no detailed account of his trip, though his herbarium is preserved at the University of Maine, and many scattered Katahdin records are based on his plants.

In 1861, during the Scientific Survey of Maine, two parties visited Katahdin. The first of these, with "Parson" Keep as guide, consisted of C. H. Hitchcock, G. L. Goodale, A. S. Packard, Edmund H. Davis, and a Mr. Maxwell. They ascended by way of the Eastern Spur, thence to the Chimney, the Monument peaks and the Tableland, and from there to Chimney Pond. The other party, consisting of John C. Houghton and G. L. Vose, made the ascent in September, by the Southwest Slide. Many of the plants collected by these parties are enumerated in the report of the Survey for 1861, while others are specially indicated in the Portland Catalogue, prepared by Prof. Goodale and the late Rev. Joseph Blake. Most of the specimens, stored temporarily in Portland, were destroyed by fire, though a very few are still extant.

In August, 1873, and again in 1874, a party from Orono and Bangor, under the leadership of M. C. Fernald, and with F. Lamson-Scribner as botanist, ascended by the East Spur. The botanical results of these expeditions were published several years later by Prof. Scribner in the *Botanical Gazette* (xvii. 46-54) and most of the specimens are in the herbarium of the New England Botanical Club.

In August, 1892, another party from the University of Maine at Orono, with the late Fred P. Briggs as botanist, ascended the North wall of the North Basin to the North Summit, thus exploring almost if not quite virgin territory. The results of this trip were enumerated by Mr. Briggs in the *Bulletin of the Torrey Botanical Club* (xix. 333-336), but unfortunately without special indication of stations.

In 1895, Prof. Alfred B. Aubert of Orono published in *Le Diatomiste* (ii. 211) a list of Diatoms from Katahdin, collected by Prof. L. H. Merrill.

In September, 1898, another large party from Orono with several

botanists, the late Francis L. Harvey, his son, Le Roy H. Harvey, Elmer D. Merrill, and P. L. Ricker, under the able escort of Capt. Rogers and his sons, entered the Great Basin by way of the modern Wassataquoik trail. It was too late for good botanizing, but a few novelties were found. These were recorded by Mr. Merrill in RHODORA (i. 185, 186), his "Three Ponds" probably being the upper of the three, which for convenience and clearness is here designated as Depot Pond.

The account of the most recent botanical explorations on the mountain is contained in the articles which accompany this. In order to bring to date such information as we now possess concerning the higher plants of Katahdin, all publications known to the writer have been examined and their records carefully noted. In the following list, if no authority for the report is given, the statement is based upon observations made in 1900 by the writer and his companions. A single asterisk (*) before the name indicates that this is the first record (at least in a published list) of the species or variety from Maine, while two asterisks (***) indicate that the plant has not been previously recorded from New England.

VASCULAR PLANTS NOTED IN THE BASINS (ABOVE DEPOT POND)
AND ON THE UPPER SLOPES OF KATAHDIN.

Osmunda regalis, L. Margin of Depot Pond. On July 16, the delicate young fronds were 1 or 2 dm. (4 to 8 in.) high.

O. Claytoniana, L. By brook, Southwest wall, North Basin, altitude about 1230 m. (4000 ft.).

Aspidium aculeatum, Swartz, var. *Braunii*, Doell. Rocks in the Great Basin (*Goodale*).

A. spinulosum, Swartz, var. *dilatatum*, Hook. Common in woods; following brooks nearly to the crest.

Phegopteris polypodioides, Fée. Common under spruces.

P. Dryopteris, Fée. Common under spruces.

Pteris aquilina, L. Shelves at 1230 to 1385 m. (4000 to 4500 ft.) North Wall, North Basin.

Lycopodium Selago, L. Very common on shaded cliffs, descending to the shores of Depot Pond.

L. lucidulum, Michx. Common in woods on lower slopes.

L. obscurum, L., var. *dendroideum*, D. C. E. Infrequent in woods, Great Basin.

L. annotinum, L., var. *pungens*, Spring. Katahdin (*Blake*); Eastern Spur (*Scribner*); North Mt. (*Briggs*).

** *L. sitchense*, Rupr. North Mt. (*Briggs*); near head of Saddle Brook and on the eastern edge of the Saddle.

L. clavatum, L. In woods, Great Basin.

** *L. clavatum*, L. var. *monostachyon*, Hook. Fl. ii. 267. North wall, North Basin, at 1230 to 1385 m. (4000 to 4500 ft.).

Isoëtes echinospora, Durieu, var. *Braunii*, Engelm. Depot Pond (*E. D. Merrill*).

Larix americana, Michx. Few depressed wide-spreading trees near the head of the North Basin, alt. about 1140 m. (3700 ft.).

Picea nigra, Link. Abundant on the lower slopes, becoming dwarfed and excessively tangled and depressed on the upper slopes of the Basins.

Abies balsamea, Mill. Common, ascending to the crest.

Thuja occidentalis, L. Depot Pond.

** *Juniperus communis*, L. var. *nana*, Loud.¹ Shelves at 1230 to 1385 m. (4000 to 4500 ft.), North Basin. Collected in flower on the West wall, July 13; in nearly mature fruit on the North wall, July 14.

Taxus canadensis, Willd. In woods, Great Basin.

Hierochloë alpina, R. & S. Katahdin (*Blake*); "Saddleback," Eastern Spur (*Scribner*); South wall, South Basin; near Monument peaks.

Phleum alpinum, L. North Mt. (*Briggs*).

Cinna pendula. Trin. North Mt. (*Briggs*); West wall, North Basin, alt. 1230 m. (4000 ft.).

Agrostis rubra, L. Common, descending far below Depot Pond (to the McLeod Camp). Named by Prof. Scribner.

* *A. Pickeringii*, Tuck. Common, descending to woods in the Great Basin. Named by Prof. Scribner.

Calamagrostis canadensis, Beauv. By brooks and on slides.

C. Langsdorfii, Trin. Slide at head of North Basin.

Deschampsia flexeosa, Trin. Common.

D. caespitosa, Beauv. Abundant in North Basin (*Briggs*). Doubtful!

¹ According to Mr. Alfred Rehder this name applies to the Arctic and high-alpine plant, while the common low juniper of New England is *J. communis*, var. *canadensis*, Loud.

* *D. atropurpurea*, Scheele. West wall, North Basin, alt. 1230 to 1385 m. (4000 to 4500 ft.); between the East Monument peak and Pomola.

Trisetum subspicatum, Beauv. Slide at head of North Basin.

Avena striata, Michx. Slide at head of North Basin, alt. 1230 m. (4000 ft.); also in woods, Great Basin.

Danthonia spicata, Beauv. Shelves at 1230 to 1385 m. (4000 to 4500 ft.), North wall, North Basin.

Poa laxa, Haenke. Very common and variable.

P. pratensis, L. A few plants introduced at site of old Appalachian hut, near Chimney Pond.

P. nemoralis, L. Chimney Pond.

Glyceria nervata, Trin. Chimney Pond.

* *Festuca rubra*, L. (viviparous form). Slide at head of North Basin. Named by Prof. Scribner.

* *Agropyron violaceum*, Lange. North Mt. (*Briggs*); Slide at head of North Basin. The Maine plant formerly reported under this name is *A. Novae-Angliae*, Scribner.

Scirpus caespitosus, L. Common.

Eriophorum alpinum, L. North Mt. (*Briggs*).

Carex Grahami, Boott. (See RHODORA, iii. 44, 49.) Depot Pond.

** *C. saxatilis*, L. (See RHODORA, iii, 44, 50.) Chimney Pond and Depot Pond. This is doubtless the *C. pulla*? reported by Scribner from Chimney Pond.

C. scabrata, Schw. Chimney Pond.

C. atrata, L., var. *ovata*, Boott. North Mt. (*Briggs*); West and Southwest walls, North Basin, alt. 1230 to 1385 m. (4000 to 4500 ft.).

C. lenticularis, Michx. Chimney Pond — first noted by Scribner.

C. rigida, Good., var. (?) *Bigelovii*, Tuck. Everywhere above timber-line.

C. torta, Boott. Meadow, head of Chimney Pond.

C. rariflora, Smith. Collected on Katahdin by Prof. G. L. Goodale in 1861, but not since detected.

C. arctata, Boott. Chimney Pond.

* *C. arctata*, Boott, var. *Faxoni*, Bailey. Occasional in the Great Basin, reaching an altitude of 1230 m. (4000 ft.) on the North wall of the North Basin.

C. debilis, Michx., var. *Rudgei*, Bailey. Lower portions of the mountain.

C. flava, L. Wet shelves at 1230 to 1385 m. (4000 to 4500 ft.). West wall, North Basin.

C. flava, L., var. *pumila*, Cosson & Germain (*C. viridula*, Michx.). Depot Pond.

** *C. (Oligocarpace) katahdinensis*. (Plate 32.) Caespitose: leaves flat, 1 to 2.5 dm. long, 3 or 4 mm. broad, more or less scabrous on the margins, with the similar bracts very much (2 to 6 times) overtopping the slender rough-angled culms: pistillate spikes mostly 3 or 4, all approximate, or the lower remote, short pedicelled, 8 to 14 mm. long, 5- to 10-flowered; scales ovate, scarious, whitish, with green midrib prolonged into a slender smooth or rough awn: perigynia elliptic, 3 or 4 mm. long, mostly exceeding the scales, obscurely resinous-punctate or glossy, 16- to 24-nerved, essentially beakless, with entire orifice: staminate spike short-peduncled or sessile, 5 to 8 mm. long, generally hidden by the upper pistillate ones; flowers very few; the lower scale bract-like and rough-awned, nearly equalling the spike, the others acuminate. — Gravelly margin of Depot Pond, entrance to the Great Basin of Mt. Katahdin, July 16, 1900 (*E. F. Williams, J. R. Churchill and M. L. Fernald*).

A species intermediate in some of its characters between *C. conoidea* and *C. oligocarpha*. Its perigynium in shape, color and nerving is essentially like that of *C. conoidea*. The staminate spike and the elongated bracts are more as in *C. oligocarpha*. In its short culms, very much exceeded by the leaves, and in its approximate spikes it is unlike either of those species. *C. oligocarpha* is unknown east of the Connecticut valley; and although *C. conoidea* — chiefly a coastal species in Maine — follows the Penobscot to Eddington and occurs in the St. John valley, it is a plant of low altitudes and may be quickly distinguished from *C. katahdinensis* by its tall culm, scattered spikes, short bracts, and the longer elevated staminate spike with mostly oblong blunt scales.

C. laxiflora, Lam., var. *varians*, Bailey. Woods in the Great Basin.

C. pedunculata, Muhl. Katahdin (*Blake*).

C. scirpoidea, Michx. Common.

C. deflexa, Hornem. Common both in woods at the base and among rocks on the summit ridge.

C. Novae-Angliae, Schw. Common in the Great Basin.

C. communis, Bailey. Shelves at 1230 to 1385 m. (4000 to 4500 ft.). North wall, North Basin.

C. communis, Bailey, var. *Wheeleri*, Bailey. Abundant in woods above Depot Pond.

C. leptalea, Wahl. (*C. polytrichoides*, Muhl.) Mossy dripping shelves at 1230 to 1385 m. (4000 to 4500 ft.). West wall, North Basin.

C. brunnescens, Poir. (*C. canescens*, L., var. *alpicola*, Wahl.) Very common.

C. trisperma, Dewey. Outlet of Depot Pond.

Juncus filiformis, L. Katahdin (*Goodale*, *Scribner*); North Mt. (*Briggs*).

J. trifidus, L. Common.

Luzula spadicea, DC., var. *melanocarpa*, Meyer. Common.

L. arcuata, Meyer. Katahdin (*Goodale*); common from the head of the Tableland to Pomola.

L. spicata, Desv. Common.

Smilacina racemosa, Desf. On shelves at 1230 to 1385 m. (4000 to 4500 ft.), North wall, North Basin.

Maianthemum canadense, Desf. Common, ascending to the heads of brooks.

Streptopus amplexifolius, DC. Woods, Great Basin.

S. roseus, Michx. Common, ascending to the heads of brooks.

Trillium undulatum, Willd. (*T. erythrocarpum*, Michx.). Common at low levels; ascending to 1230 m. (4000 ft.) in North Basin.

Iris versicolor, L. Depot Pond.

Habenaria dilatata, Hook. North Mt. (*Briggs*); wet shelves at 1230 to 1385 m. (4000 to 4500 ft.), West wall, North Basin.

Listera convallarioides, Torr. Katahdin (*J. W. Chickering* in *Gray Herb.*).

L. cordata, R. Br. Scattered but frequent.

Goodyera tessellata, Lodd. Woods, Great Basin.

Populus tremuloides, Michx. Dwarf trees a few feet high, near Chimney Pond.

Salix rostrata, Richardson. By small pool, below Chimney Pond.

S. argyrocarpa, Anders. Common, Eastern Spur (*Scribner*).

* *S. phyllifolia*, L. Meadow at entrance to Great Basin; small pool, below Chimney Pond; head of Saddle Brook. A pubescent

willow, possibly referable here, was collected in the North Basin, but further study is necessary before its identity can be satisfactorily made out.

S. balsamifera, Barratt. By small pool, below Chimney Pond.

S. Uva-ursi, Pursh. Very common on more exposed slopes and tablelands.

S. herbacea, L. Katahdin (*Goodale*); in moss, head of Eastern Slide and on the "Saddleback," Eastern Spur (*Scribner*); in moss, head of Saddle Brook.

Corylus rostrata, Ait. Depot Pond.

** *Betula papyrifera*, Marsh., var. *cordifolia*, Regel. The common form of the Canoe Birch in the Great Basin, extending as a dwarf shrub to the crests and to the North summits. One of Regel's type specimens was collected on Katahdin in 1847 by Aaron Young.

B. odorata, Bechst., var. *tortuosa*, Regel. (*B. papyracea*, var. *minor*, Tuck., as to his own specimens in Herb. Gray). Summit of North Mt. This shrub, which also occurs on Washington, quite lacks the pubescence of *B. papyrifera*. It is identical with the dwarf form of the Scandinavian and Siberian *B. odorata*, and is well represented in Fl. Dan. xvii. t. 2818.

B. glandulosa, Michx. At various stations above timber-line. Most of the Katahdin material is var. *rotundifolia*, Regel.

Alnus viridis, DC. Common on lower slopes, following brooks to the crest.

Comandra livida, Richards. Abundant on the floor and the South wall of the North Basin; rare on North wall, South Basin.

Rumex Acetosella, L. Few plants introduced at site of old Appalachian hut, near Chimney Pond.

Polygonum viviparum, L. "Long Crooked Slide," South wall, South Basin (*Scribner*); notch between the Chimney and Pomola.

Arenaria groenlandica, Spreng. Common.

Stellaria borealis, Bigelow. By rivulet at 1385 m. (4500 ft.), South Basin (*E. D. Merrill*).

Thalictrum polygamum, Muhl. Depot Pond. Flowering specimens 2.5 dm. (10 in.) high.

Ranunculus Flammula, L., var. *reptans*, E. Meyer. Depot Pond.

R. acris, L. Few plants introduced at site of old Appalachian hut, near Chimney Pond.

Coptis trifolia, Salisb. Common.

Actaea spicata, L., var. *rubra*, Ait. Frequent in Great Basin, ascending nearly to the head of Saddle Brook.

Cardamine bellidifolia, L. "Long Crooked Slide," South Basin (Scribner); beach at head of Chimney Pond; shaded rocks from the Monument peaks to Pomola; West wall, North Basin.

Drosera rotundifolia, L. Wet shelves, at 1230 to 1385 m. (4000 to 4500 ft.); North and West walls, North Basin.

Saxifraga stellaris, L., var. *comosa*, Willd. Near the chimney — first detected in 1856 by Joseph Blake; north of the West Monument peak — first detected by Scribner.

Ribes lacustre, Poir. Common, ascending to the heads of streams.

R. prostratum, L'Hér. Common, with the last.

R. rubrum, L., var. *subglandulosum*, Maxim. Great Basin (*Goodale*); near head of Saddle Brook.

Prunus pennsylvanica, L. f. Shelves at 1230 to 1385 m. (4000 to 4500 ft.); North and West walls, North Basin.

P. Virginiana, L. With the latter.

Spiraea salicifolia, L. var. *latifolia*, Ait. With the last two.

Rubus idaeus, L., var. *strigosus*, Maxim. Common in woods, Great Basin.

R. canadensis, L. (*R. Millspaughii*, Britton). Depot Pond.

Fragaria virginiana, Mill. Shelves at 1230 to 1385 m. (4000 to 4500 ft.); West wall, North Basin.

Potentilla fruticosa, L. North Mt. (*Briggs*); on shelves with the latter species.

P. tridentata, Ait. Common.

Pyrus americana, DC. Frequent below the crest. Some of the young material may be *P. stitchensis*, Piper, *Mazama* ii. 107 (*P. sambucifolia* of Eastern authors, not Cham. & Schl.).

Amelanchier oligocarpa, Roem. Common, ascending nearly to the crest.

Empetrum nigrum, L. Common; fruit nearly ripe, July 13, on floor of North Basin.

Nemopanthus fascicularis, Raf. Common, ascending nearly to the crest.

Acer spicatum, Lam. Common, ascending nearly to the crest.

A. rubrum, L. Infrequent, Great Basin.

Oxalis Acetosella, L. Common.

Viola Selkirkii, Pursh. Woods in Great Basin; shelves at 1230 to 1385 m. (4000 to 4500 ft.), North wall, North Basin.

V. palustris, L. Common by streams on the upper slopes; Chimney Pond. Flowers white.

V. blanda, Willd. Common in Great Basin.

* *V. canina*, L., var.? Chimney Pond; shelves at 1230 to 1385 m. (4000 to 4500 ft.), North and West walls, North Basin. This plant, identical with that of alpine regions of the White Mts., occurs also in Labrador and Greenland. It differs from *V. canina*, var. *Muhlenbergii*, Gray (*V. labradorica*, Schrank) in its deep blue, not lavender, corolla, entire or subentire stipules, and more rounded upper leaves. Further study of the northern forms is necessary before its status and name can be exactly determined.

Epilobium angustifolium, L. Chimney Pond.

E. Hornemanni, Reich. Scattered, but generally distributed.

** *E. anagallidifolium*, Lam. Immature plants, probably of this high-northern species, were collected in moss near the heads of Saddle Brook and of Saddle Slide.

Heracleum lanatum, Michx. North Mt. (Briggs); Shelves at 1230 to 1385 m. (4000 to 4500 ft.), West wall, North Basin; Chimney Pond.

Cornus canadensis, L. Common.

C. stolonifera, Michx. Chimney Pond; floor of North Basin.

Pyrola minor, L. Katahdin (*Blake*); by brooks, Great Basin, ascending nearly to head of Saddle Brook.

Pyrola secunda, L. Under spruces, South wall, North Basin.

Moneses grandiflora, Salisb. Frequent in woods.

Chimaphila umbellata, Nutt. Katahdin (*Goodale*).

Monotropa Hypopitys, L. Katahdin (*Goodale*).

Ledum groenlandicum, Oeder. Common.

Rhododendron Rhodora, Don. Near the Pond, North Basin.

R. lapponicum, Wahl. Very common in more exposed places.

Loiseleuria procumbens, Desv. Katahdin (*Blake*); north of Monument peaks (*Scribner*); head of Saddle Brook; floor of North Basin.

Kalmia augustifolia, L. Frequent.

K. glauca, Ait. Common.

Bryanthus taxifolius, Gray. Above timber-line, East slope of Saddle; from head of Tableland to Pomola; upper slopes of North Mt.

Cassiope hypnoides, Don. Eastern edges of North Tableland (*Scribner*); North Mt. (*Briggs*); East slope of Saddle, above timberline; from the Monument peaks to Pomola.

Andromeda polifolia, L. Wet mossy shelf, at about 1290 m. (4200 ft.), West wall, North Basin. Shrubs 0.5 to 1 dm. (2 to 4 in.) high.

Cassandra calyculata, Don. Depot Pond.

Arctostaphylos alpina, Spreng. Common and fruiting abundantly on the more exposed slopes and tablelands.

Vaccinium pennsylvanicum, Lam., var. *angustifolium*, Gray. North Tablelands (*Scribner*); floor of North Basin.

V. canadense, Kalm. Common on lower slopes; ascending to 1385 m. (4500 ft.) in the North Basin.

V. uliginosum, L. Very common. Fruit beginning to ripen, July 13, on the floor of the North Basin.

V. caespitosum, Michx. Generally distributed on the upper slopes, but less common than the last.

V. Vitis-Idaea, L. Common, even at the summits.

V. Oxycoccus, L. Boggy outlet of Chimney Pond.

Chiogenes serpyllifolia, Salisb. Common on lower slopes.

Diapensia lapponica, L. Abundant on more exposed slopes and tablelands.

Trientalis americana, Pursh. Common in Great Basin; following far up the streams.

Apocynum androsaemifolium, L. Depot Pond.

* *Veronica alpina*, L. By brook, head of Chimney Pond.

Castilleja pallida, Kunth, var. *septentrionalis*, Gray. North Mt. (*Briggs*); shelves at 1230 to 1385 m. (4000 to 4500 ft.), walls of North Basin.

* *Euphrasia Oakesii*, Wettst. With the latter.

Melampyrum lineare, Lam. Floor of North Basin.

* *Galium kamtschaticum*, Steller. Brook-beds, North and West walls, North Basin.

G. triflorum, Michx. Chimney Pond.

Sambucus racemosa, L. Common by streams.

Viburnum pauciflorum, Pylaie. Abundant by streams; ascending nearly to the crest.

V. cassinoides, L. Common on lower slopes; ascending in North Basin to 1385 m. (4500 ft.).

Linnaea borealis, L. Walls of North Basin.

Lonicera caerulea, L. Shelves at 1230 to 1385 m. (4000 to 4500 ft.), West wall, North Basin.

Diervilla trifida, Moench. With the last; also on the North wall, North Basin.

Campanula rotundifolia, L. Common.

Solidago macrophylla, Pursh. Common.

S. Virgaurea, L., var. *alpina*, Bigelow. Common. There were very diverse forms immature in July. These need careful collecting.

Aster Radula, Ait. North Mt. (*Briggs*); common on the walls of the North Basin to 1385 m. (4500 ft.); Chimney Pond.

A. umbellatus, Mill. North and West walls, North Basin, at 1230 to 1385 m. (4000 to 4500 ft.).

A. acuminatus, Michx. With the last.

Gnaphalium supinum, Villars. Rocks in the Great Basin (*Scribner*); North Mt. (*Briggs*); gravelly bank, head of Saddle Brook.

Arnica Chamissonis, Less. Katahdin, rare (*Goodale*); foot of Eastern Slide (*Scribner*); North Mt. (*Briggs*); shelves at 1230 to 1385 m. (4000 to 4500 ft.), North and West walls, North Basin.

Senecio Balsamitae, Muhl. Depot Pond — first noted by E. D. Merrill.

Prenanthes trifoliolata, Fernald, var. *nana*, n. comb. (*P. alba*, var. *nana*, Bigelow. *P. serpentaria*, var. *nana*, Gray. *Nabalus nanus*, DC.) Common.

P. Boottii, Gray. Higher slopes; mostly on the crest.

EXPLANATION OF PLATE 32. — *Carex katahdinensis*: Fig. 1, portion of plant; fig. 2, scale from staminate spike; fig. 3, scale from pistillate spike; fig. 4, perigynium and scale. *C. conoidea*: Fig. 5, mature inflorescence; fig. 6, scale from staminate spike; fig. 7, perigynium and scale. *C. oligocarpa*: Fig. 8, mature inflorescence; fig. 9, scale from staminate spike; fig. 10, perigynium and scale.

BRYOPHYTES OF MOUNT KATAHDIN.

G. G. KENNEDY and J. F. COLLINS.

THE following preliminary list of the Musci and Hepaticae of Mount Katahdin is based on collections made from July 7–16, 1900. The Hepaticae were determined by Dr. A. W. Evans; the Dicrana by Dr. R. H. True, and the remainder by Dr. G. G. Kennedy, Messrs. J. F. Collins and E. B. Chamberlain.